UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

July 5, 2001

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

MEMORANDUM

SUBJECT: National Remedy Review Board Recommendations for the Clark Fork River Superfund Site

FROM: Bruce K. Means, Chair
National Remedy Review Board

TO: Max H. Dodson,
Assistant Regional Administrator
EPA Region 8

Purpose

The National Remedy Review Board (NRRB) has completed its review of the proposed Superfund cleanup action to address the Clark Fork OU of the Milltown Reservoir Sediments/Clark Fork River Superfund Site near Anaconda, Montana. This memorandum documents the NRRB's advisory recommendations.

Context for NRRB Review

The Administrator announced the NRRB as one of the October 1995 Superfund Administrative Reforms to help control response costs and promote consistent and cost-effective decisions. The NRRB furthers these goals by providing a cross-regional, management-level, "real time" review of high cost proposed response actions prior to their being issued for public comment. The board reviews all proposed cleanup actions that exceed its cost-based review criteria.

The NRRB review evaluates the proposed actions for consistency with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and relevant Superfund policy and guidance. It focuses on the nature and complexity of the site; health and environmental risks; the range of alternatives that address site risks; the quality and reasonableness of the cost estimates for alternatives; regional, state/tribal, and other stakeholder opinions on the proposed actions, and any other relevant factors.

Generally, the NRRB makes "advisory recommendations" to the appropriate regional decision maker. The region will then include these recommendations in the Administrative Record for the site before it issues the proposed response action for public comment. While the region is expected to give the board's recommendations substantial weight, other important factors, such as subsequent public comment or technical analyses of response options, may influence the final regional decision. The board expects the regional decision maker to respond in writing to its recommendations within a reasonable period of time, noting in particular how the recommendations influenced the proposed cleanup decision, including any effect on the estimated cost of the action. It is important to remember that the NRRB does not change the Agency's current delegations or alter in any way the public's role in site decisions.

Overview of the Proposed Action

The Clark Fork Basin Superfund Complex is located in southwest Montana and is made up of four contiguous Superfund Sites which are further broken up into operable units for easier management. This action addresses the Clark Fork River Operable Unit, one of three operable units in the Milltown Reservoir Sediments Superfund Site. The Clark Fork River Operable Unit consists of some 120 miles of the Clark Fork River and adjacent flood plain and irrigated lands from the headwaters of the Clark Fork River downstream to the headwaters of Milltown Reservoir near Bonner, Montana. The Clark Fork River and adjacent flood plain are heavily contaminated with mine and mill tailings, containing various heavy metals and arsenic, as a result of over 100 years of primarily copper mining and smelting in the upper Clark Fork Basin. The Region's initial preferred remedy for the Clark Fork River Operable Unit includes removal of some exposed tailings with the bulk of exposed tailings or other tailings impacted soils receiving in-place reclamation, stream bank stabilization of some 299,000 feet of stream, and development of a riparian corridor buffer.

NRRB Advisory Recommendations

The NRRB reviewed the informational package (dated April 2001) for this proposal and discussed related issues on May 21, 2001 with EPA and Montana State Department of Environmental Quality (DEQ) personnel. Meeting participants included:

Scott Brown, EPA Remedial Project Manager;
Bob Fox, EPA Montana Office Superfund Manager;
Dale Hoff, EPA Site Ecological toxicologist;
Henry Elsen, EPA Site Attorney;
Chris Weiss, EPA Site Human Health Toxicologist;
Vic Andersen, Mine Waste Cleanup Bureau Chief, Remediation Division, DEQ;
Kevin Kirley, State Project Officer, DEQ;
Mary Capdeville, State Attorney, DEQ; and,
Sandi Olsen, Administrator, Remediation Division, DEQ.

Based on this review and discussion the board offers the following comments:

- As presented, one important goal of the remedy is to reduce the potential for release of copper and other contaminants within the tailings deposits to the Clark Fork River. The preferred remedy includes a combination of treatment and removal of the exposed and fringe area tailings as well as other actions to stabilize the stream banks in impacted areas via revegetation of those banks and near-bank areas. Based on the package, it is

unclear which risks drive these various actions. For example, short-term acute impacts to fish might be adequately addressed by remediating only the exposed tailings in the flood plain; however, depending on the remediation alternative selected, that same action may contribute to the goal of long-term flood plain stability. The board recommends that the decision documents contain a clear discussion of the risk reduction benefits and cleanup time frames associated with the remedial alternative actions.

- The board notes that a set of two formulas developed in the ecological risk assessment and a "riparian evaluation system" will be used to identify areas requiring remedial action. While the board supports the use of such a decision tree in concept, it is unclear how the formulas and evaluation system, when coupled together, relate to ecological risk-based determinations of unacceptable terrestrial risk or appropriate measures for determining acceptable levels of residual risk. The board recommends that these matters be clarified in the, site decision documents.

- The Board notes that *in situ* treatment of tailings has been in place for about a decade at the Governor's demonstration area, and that the proposed *in situ* treatment is substantially less costly and requires less time for implementation than removal and replacement. The board received a wide variety of stakeholder views regarding the long-term effectiveness of in-situ treatment. Based on the information provided in the package, the board was unable to completely evaluate this topic. The board recommends that the Region review available data to ensure that the buffering capacity in the treated soil/waste mixture is not being lost to infiltration and runoff at a rate that would hinder long-term performance of the treatment. The board also recommends that the Region consider making effectiveness information more readily available to the public and clearly describe the bases for projected long-term performance in the site decision documents.

- The Board notes that stream bank erosion accounts for some 60% of the copper loading to the Clark Fork River and that stream bank stabilization is an important component of the preferred remedy. The package did not, however, clearly describe how the preferred stream bank stabilization remedy was selected. Specifically, it is recommended that the Region provide a clearer supporting rationale in the decision document for the benefits of stabilizing 298,848 feet of stream bank relative to other alternatives that would stabilize less stream bank.

- The preferred remedy depends heavily on establishing and maintaining healthy riparian vegetation over the long term in order to stabilize stream banks and prevent flood plain erosion and de-stabilization during periods of over-bank stream flows. Given the extensive cattle grazing on both public and private lands in the flood plain, the package did not clearly address how grazing in the riparian areas would be managed to achieve this goal. The board recommends that the decision documents address this issue by describing the types and feasibility of management approaches necessary to ensure the long-term reliability of stabilization efforts.

- It is unclear how the preferred remedy, or alternatives, would attain protectiveness for groundwater over the entire Operable Unit and for surface water drinking standards for arsenic in Reaches B and C. The board recommends that the Region address these issues in the decision documents.

- The board notes that in many regions of the country, more conventional containment as a remedial strategy is not typically screened out early in the alternatives analysis. The board recommends that the decision documents include a clear discussion of why capping of slickens areas and hard alternatives to the proposed soft engineering methods for stream bank erosion control were not carried through the detailed analysis.

- The board notes that the cost estimates presented in Exhibit 31 include a category of miscellaneous costs that ranges as high as 25 to 30 % of net present value. The board recommends that the Region evaluate the appropriateness of these miscellaneous costs. In future documents, the Region should use more detailed cost breakdown categories that better explain the bases for these additional costs.

The NRRB appreciates the region's efforts to work closely with the state, the PRP, and community groups at this site. We encourage Region 8 management and staff to work with their regional NRRB representative and the Region 3/8 Accelerated Response Center in the Office of Emergency and Remedial Response to discuss any appropriate follow-up actions.

Thank you for your support and the support of your staff in preparing for this review. Please give me a call at 703-603-8815 should you have any questions.

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